

Acc. No. _____

Form 504
Ed. June, 1923

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton....., Director

State: South Carolina

DESCRIPTIVE REPORT

Topographic } Sheet No. 16 5484
Hydrographic }

LOCALITY

Charleston, S. C.

Entrance to Harbor, South Jetty.

And Stono ^{Inlet} River Bar.

193 4

CHIEF OF PARTY

Lt. Bertram H. Higg

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET NO. 16

(Stono River Bar)

PURPOSE OF SURVEY - The hydrography was done in this area with the idea of making an examination of the bar. It was reported to the field party by the local office of the U. S. Lighthouse Service that this bar is very changeable. Due to this fact the entrance buoys have to be moved about once each year and about four times during the past year.

This is not considered a complete survey, but a study to determine whether or not a chart can be compiled of this area that will aid a navigator in crossing the bar. The results of the investigation seem to show that a chart with no note explaining the changeability of the bar might be misleading to the navigator.

CHANNELS - The present channel is across the western side of the bar and is controlled by a depth of 5' at several points on the bar. A 2' shoal is marked by a Red Nun Buoy No. 2. This shoal may, however, be seen at any stage of the tide except at high tide on a very calm day. Heavy breakers are generally seen to the eastward of Buoy No. 2.

COMPARISON WITH PREVIOUS SURVEYS - The 18' curve of this survey compares very well with the 18' curve from the old survey. However, everything inside of the 18' curve has changed since the old survey. The 6' curve now extends across what was the old deep channel. The change in depth in some cases is as much as 15'. The tendency seems to be a building out of the point on the eastern side of the inlet and a cutting away of the point on the western side. The controlling depth from the old survey was 9' across the bar and from the present survey is 5'.

TIDAL DATA - The soundings were reduced by data obtained from a portable gauge which operated at Karow's Wharf on the Folly River.

The mean low water on the staff is: 4'.

STATISTICS

Vol. No.	Miles	No. of Sound.	No. of Pos.
1	32.8	1233	209
2	<u>26.5</u>	<u>1096</u>	<u>162</u>
	59.3	2329	371

Respectfully submitted by,

Edward B. Brown, Jr.
Ensign Edward B. Brown, Jr.

Forwarded by,

Benjamin H. Figg
Lt. Benjamin H. Figg
Chief of Party
H. & C. Engineer.

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET NO. 16

(This report covers the survey of the area just south of the south entrance jetty to Charleston harbor and was executed under the direction of B. H. Rigg.)

DATE OF INSTRUCTIONS - October 10, 1933.

SURVEY METHODS - The soundings are controlled by three point fixes on triangulation and topographic signals. The soundings were taken with a hand lead line graduated in fathoms and feet. Where possible, the lines were run on ranges. The greater part, however, had to be run on compass courses. Lines were run across and also along the top of the submerged jetty. This method is not considered as an absolute determination of the least depth for this area because of the presence of the submerged jetty and the consequent irregularities. A wire-drag is recommended as being the only means of obtaining absolute depths. As this channel is recommended for use only by local mariners and yachtsmen, the present survey is considered adequate.

DANGERS - There are two shoals in the area worked, on which breakers will show in a very low sea. One at lat. $32^{\circ} 43.5'$, long. $79^{\circ} 50.7'$. It was impossible to cross this shoal at any time; Another shoal at lat. $32^{\circ} 42.3'$, long. $79^{\circ} 51.2'$. The shoalest sounding is 5'.

CHANNELS - There are no channel markers in this area. The shoalest sounding recorded on the submerged jetty was 7' on position 5e at lat. $32^{\circ} 43.9'$, long. $79^{\circ} 51.7'$. The best water in this channel crosses the submerged jetty approximately mid-way between the exposed jetty and the shore (lat. $32^{\circ} 43.9'$, long. $79^{\circ} 51.5'$) and continues on a true bearing of $186^{\circ} 26'$. The controlling depth in this channel is ^{9' over jetty} 13'. This channel is recommended for boats of light draft only. The boats commonly using it now being of less than 4' draft.

COMPARISON WITH PREVIOUS SURVEYS - The controlling depth on the submerged jetty is 7' and not 16' as shown on the present chart.

TIDAL DATA - The reducers for the soundings were obtained from a tide staff installed on Fort Sumter Dock which was read every 30 minutes during the working period. Mean low water on this staff was 2.606'.

STATISTICS

Vol.No.	Miles	No.of Sound.	No. of Pos.
3	39.5	1736	309
4	29.7	1359	268
5	<u>22.4</u>	<u>968</u>	<u>178</u>
	91.6	4063	755

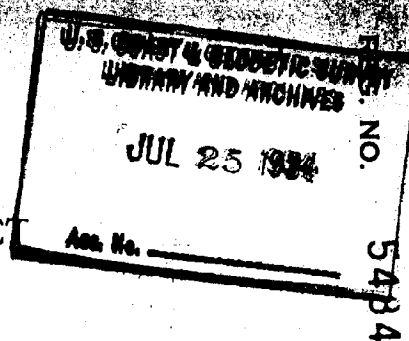
Respectfully submitted by,

J. B. Kinghorn

Forwarded by,

Lt. Benjamin H. Hegg,
Chief of Party
H. & G. Engineer

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 16

REGISTER NO. 5484

State South Carolina

General locality Charleston, S.C.

Locality South Jetty to Lighthouse Inlet and Stone Bluff Inlet.

Scale 1-20,000 Date of survey May, 19 34

Vessel Party No. 19

Chief of Party Lt. B. H. Rigg

Surveyed by J. B. Kinghorn & Ensign E. B. Brown, Jr.

Protracted by C. J. Harryman

Soundings penciled by C. H. Harryman

Soundings in fathoms feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by

Inked by A. H. YEOMANS

Verified by A. H. Y.

Instructions dated October 10, 19 33

Remarks:

82

200

August 14, 1934.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
5 volumes of sounding records for

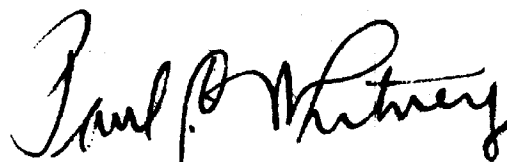
HYDROGRAPHIC SHEET 5484

Locality South Jetty to Lighthouse Inlet and Stono River Inlet, S. C.

Chief of Party: M. O. Witherbee in 1934
Plane of reference is Mean Low Water Reading
4.0 ft. on tide staff at Folly Beach
16.5 ft. below B. M. 1
2.6 ft. on tide staff at Fort Sumter
23.0 ft. below B. M. 10

Height of mean high water above plane of reference is 5.0 ft.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents

Section of Field Records

Report on H. 5484.

Surveyed - May, 1934.

Chief of Party - Lieut. B. H. Rigg. Surveyed by- J. B. Kinghorn;

Protracted by - C. J. Harryman.

Ensign E. B. Brown, Jr.

Verified and Inked by A. Yeomans

Soundings plotted by - C. J. H.

1. The records conform to the requirements of the General Instructions. ✓
2. The usual depth curves were completely drawn. ✓
3. The field plotting was completed to the extent prescribed in the General Instructions with the exceptions that buoys 17 and 19 were not plotted. ✓
4. The office draftsman did not have to do over any part of drafting done by the field party. ✓
5. The junctions with the adjacent sheets H. 5455 and H. 5465 could not be investigated because these sheets have not been completed. ✓
6. The verifier thought best to plot the $6\frac{1}{2}$ foot soundings showing the $1\frac{1}{2}$ foot on the sheet, which had not been done by the field party, so that the 6 foot curve could be more accurately drawn. ✓

The soundings were taken so closely together that it was not possible to plot more than $\frac{2}{3}$ of the number recorded. ✓

A. H. Yeomans

Submitted by - A. H. Yeomans.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5484

The following statistics will be submitted with the
cartographer's report on the sheet:

Number of positions on sheet	1126.
Number of positions checked	..7...
Number of positions revised	...0...
Number of soundings recorded	6392.
Number of soundings revised	...0...
Number of signals erroneously plotted or transferred	..0...

Date:.....SEPT. 13. 1934.....

Cartographer:.....A. H. YERMAN.....

Verification of protracting
Verification & inking of rocks and shoals) by A. H. Y.

Time: 36 hrs.

Verification of inking by

Time:

Review by R. J. Christman

Time: 15 1/4 hrs.

Section of Field Records.

REVIEW OF HYDROGRAPHIC SURVEY NO.5484 (1934)

South Jetty to Lighthouse Inlet and Stono River Inlet, Charleston, S. Carolina
Surveyed May 1934.

Instructions dated October 10, 1933 (B.H.Rigg)

Hand lead-----Three point control on shore objects.

Chief of Party- B.H.Rigg
Surveyed by---- J.B.Kinghorn and E.B.Brown Jr.
Protracted and soundings penciled by- G.J.Harryman
Verified and inked by- A.H.Yeomans

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual.

2 Compliance with Instructions for the Project.

The survey is in accordance with the general instructions for the project.

3 Sounding Line Crossings.

Depth agreements at crossings of lines are very good, generally less than one foot.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn.

5. Junction with Contemporary Surveys.

The junctions with the contemporary surveys H-5455 and H-5465 (1933) will be taken up in the review of those sheets.

6. Comparison with Prior Surveys.

(a) H-4181 (1921) is the latest survey prior to the 1934 survey.

1. The 1934 survey shows many changes have taken place in Stono Inlet. No large scale chart should be made without a caution note relative to the changable nature of the channel through this inlet. Desc. Rep. Page 1.

2. The area between South Jetty and Lighthouse Inlet has undergone considerable change. The shoal in Lat.32-42 Long. 79-51, has extended itself to the westward, 5 feet is shown where the 1921 survey shows deep water, 17 to 18 feet. Details in the vicinity of the submerged jetty shows numerous changes.

(b) H-2467 (1900) and H-2221 (1895) shows progressive effect of partially closing the original Main Ship Channel by the placing of a submerged jetty. A detailed comparison is not justified for the purpose of this review.

6. (c) H-1656(1886), H-874(1865), H-853(1864), H-852(1863-4), H-254(1851). These surveys show conditions as they existed prior to the placing of the jettys at Charleston. No detailed comparison with the 1934 survey is justified.

(d) H-803(1862) shows conditions in Stono Inlet. This is a very changeable area and a detailed comparison is not warranted. See Desc. Rep. page 1.

7. Comparison with Chart No. 470 and Chart No. 1239.

The chart is in agreement with the survey of 1921 (H-4181). Seven feet is now the controlling depth over the submerged jetty. The buoys at Stono Inlet are shifted in accordance with the changes in the channel. Their charted position does not agree with the location given by the present survey.

8. Field Plotting.

Protracting, penciling of soundings and general field drafting was satisfactory.

9. Additional Field Work Recommended.

No additional field work is recommended at this time within the limits of the present survey.

10. Superseding Old Surveys.

Within the area covered the present survey supersedes the following surveys for charting purposes:

H-4181(1921) in part
H-2461(1900) in part
H-2221(1895) in part
H-1656(1886) in part
H-874 (1865) in part
H-853 (1864) in part
H-852 (1863-4) in part
H-803 (1862) in part
H-254 (1851) in part.

11. Reviewed by-R.J.Christman, September 1934.

Inspected by- A.L. Shalowitz.

Examined and approved:

K.T. Adams
K.T. Adams,
Chief, Section of Field Records.

W.B. Braden
Chief, Section of Field Work.

L.O. S. Polk
Chief, Division of Charts.

G. H. Rude
Chief, Division of H.&T.

Applied to drawing of chart #470. Feb. 8, 1935
J.H.S.

Applied to new compilation of chart #491. March 11, 1935.
J.H.S.

Applied to Chart Compilation No 792 November 20, 1936. H.E.M.
Applied to chart 1239 Apr. 1937 L.M.H.

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